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Before the
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In the Matter of

The development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010	)	WT Docket No. 96-86
Establishment of Rules and Requirements for Priority Access Service	)	

Comments of Northern Telecom Inc.

I. Introduction

Northern Telecom Inc. ("Nortel") submits these reply comments in connection with the above captioned docket (the "NPRM") concerning the spectrum needs of the public safety community through the year 2010. Nortel concurs with the Commission's principles for addressing these needs as articulated in the NPRM and supported by the commenters -- spectrum efficiency, interoperability, equipment affordability and regional flexibility. Nortel also agrees with the Commission and the commenters on the importance of this rulemaking to the public safety community and their collective ability to safely and effectively perform their critical functions.

The final Public Safety Wireless Advisory Committee ("PSWAC") report amply demonstrates the overall need of the public safety community for additional spectrum, and provides a solid foundation for Commission action in this proceeding.

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Indeed, recent events (including the World Trade Center and Oklahoma City bombings and other natural disasters) dramatically underscore the Commission's recognition of the importance of interoperability capability as part of public safety spectrum needs. Nortel believes that communications equipment manufacturers like itself can help meet these crucial needs.

II. Spectrum Efficiency

The PSWAC determined that nearly 100 megahertz of spectrum would be needed to address the needs of the public safety community through 2010. Although near term needs should be fulfilled with the recent re-allocation to public safety of 24 megahertz of spectrum from the TV Channels 60-69, the longer-term capacity needs identified by the PSWAC will remain unmet unless more spectrum efficient equipment is introduced and deployed on a widescale basis. Clearly, spectrum efficiency is critical to meet the demonstrated needs of the public safety community.

Thus, in establishing requirements for interoperability, the Commission must also ensure that spectrum efficiency is maximized. Nortel concurs with Motorola's suggestion to use analog FM as the baseline voice interoperability transmission technology, but only as a near term solution for the embedded base of analog FM systems. However, the Commission must also adopt a clear evolutionary path that is market driven to allow for open competition to digital standards as a means of enhancing spectrum efficiency.

When compared to other available transmission technologies, analog FM does not fulfill the Commission's goal of spectrum efficiency. In addition, equipment that can also communicate digital traffic will enhance public safety flexibility. Digital technologies can more easily accommodate the varied uses such as data and video that are needed for the public safety communications. Moreover, analog FM is readily susceptible to eavesdropping.[/] For interdepartmental sensitive communication, and for interoperability, secure communication as provided by digital communications is vastly superior. Therefore, while the Commission can adopt analog FM as the standard for voice interoperability, the Commission should simultaneously adopt a clear migration strategy to more spectrum efficient digital technology.

Nortel understands that many public safety groups will not be able quickly to replace their existing analog FM systems, and connectivity with analog FM will be useful for the near term. However, it is technologically feasible to build communications equipment that can communicate with existing analog FM systems and also communicate on digital systems. Thus, the Commission need not mandate a "flash cut" to digital standards. The Commission should, however, begin the transition as quickly as possible.

[/] Indeed, Nortel understands that currently some departments send mobile officers to pay phones to communicate sensitive information such as access alarm codes or pass key locations.

III. Equipment Affordability

Nortel agrees with the Commission that affordability of equipment has been adversely impacted by the lack of competition, which has been exacerbated by the different types of proprietary, non-interoperable communication systems. In order to lower prices, competition in the public safety communications systems marketplace must become a factor. As noted by Ericsson in an *ex parte* filing, lack of a truly competitive market and intellectual property rights in particular technologies have had an adverse effect on the price of communications equipment for public safety.

By way of contrast, the highly dynamic CMRS market has seen the benefits of equipment choices in a market. The healthy competition and interoperability that has characterized CMRS equipment has resulted in more affordable and feature rich equipment for CMRS system operators and CMRS subscribers. While Nortel recognizes that public safety has unique needs, Nortel believes a similar healthy competitive environment for public safety communication equipment would produce similar cost savings and equipment choices for public safety.

Nortel supports the regional planning concepts proposed by the Commission. Areas with common interests should be able to develop spectrum plans and features that meet their individual needs. Nortel would caution, however, that a direct relationship exists between the customized features sought by an individual region and the price of that system.

IV. Standards

The Commission recognizes that evolving towards uniform technical standards is necessary for nationwide interoperability and seeks a resolution to the standards issues. While Nortel agrees with Motorola that it is premature at present for the Commission to mandate technical standards for digital voice, trunking and advanced services, Nortel agrees with the Commission that an open, market-driven and fair process to develop technical standards would promote interoperability, which in turn would provide increased competitive equipment choices and further reduce equipment costs. Nortel suggests that the Commission encourage current and potential equipment manufacturers to meet with public safety representatives to explore the feasibility of standards. Such a process could produce an open technical standard that is not burdened by Intellectual Property barriers, which in turn would promote equipment development, reduce costs and provide an environment for healthy competition. Such collaboration between the public safety community and equipment manufacturers is likely to identify new and exciting ways to serve the public safety needs and develop consensus on standard issues.

V. Priority Access

In this rulemaking the Commission also raises the issue of priority access as a means of enhancing public safety communications. The National Communications System suggests significant reliance upon commercial services for public safety purposes. The PSWAC Final Report is skeptical of the capability of commercial services to meet the needs of public safety.

Nortel agrees with the Commission that it is worthwhile to further investigate priority access matters. Any system, to meet the requirements of the public safety community, must provide sufficient reliability and access. Priority access, while helpful, may not be sufficient. If the public safety community was sharing spectrum with commercial users in a crisis heavily covered by electronic media, it is likely that the public safety users would not obtain adequate access until after the emergency was concluded. Nortel appreciates that near instantaneous communications are necessary for public safety needs.

As demonstrated by the development of CMRS equipment that communicates with two or more types of communication networks, it should be possible to develop equipment that communicates on both a public safety and a commercial network, thereby providing maximum flexibility for public safety needs. It may also be possible to develop priority access standards for CMRS systems that could satisfy some or all of the public safety needs, thus providing alternative communications options.

VI. Interoperatibility of Networks

In Nortel's experience, public safety users desire the ability to originate and receive communications anywhere (including when they are operating in other jurisdictions) and the ability to facilitate cross-network communications between networks of different jurisdictions. Logistical and economic constraints impede the development of nationwide interoperability between federal, state and local public safety agencies. Recognizing the unique needs of public safety and limitations of commercial networks to meet those needs, the use of commercial carrier's networks for the provision of an alternate or secondary level of communications would nevertheless be desirable and likely provide an economically attractive ancillary communications means. For this potential to be realized, the Commission must establish rules for the physical interface between the public safety and commercial carrier networks and an appropriate numbering plan for routing of calls between networks.

Resolving the rules for these two issues, which are within the scope of the Commission's rulemaking authority, would allow manufacturers to develop innovative solutions. By building on CMRS interworking experience, Nortel believes that the marketplace will develop appropriate responses to the public safety users' needs.

VII. Conclusion

Nortel welcomes this opportunity to address the communications needs of the public safety community over the next decade. As described above, there is much the Commission can do, besides allocating more spectrum, to ensure that the long-term needs of the public safety community are met. The Commission should strive to make it possible for the public safety community to enjoy the benefits that a vibrant, competitive marketplace will bring.

Respectfully submitted,

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